

WEST Search History for Application 10530502

Creation Date: 2010031115:29

(374/110, 111, 112, 137, 141, 147, 135, 148, 30)!(CCLS)PGPB, USPT, USOC, EPAB, JPAB ADJ 07-22-2008
((374/110, 111, 112, 137, 141, 147, 135, 148, 30)!(CCLS)) and (optic\$2 near fiber)PGPB, USPT, USOC, EPAB, JPAB ADJ YES 07-22-2008
((374/110, 111, 112, 137, 141, 147, 135, 148, 30)!(CCLS)) and (optic\$2 near fiber near distribut\$3)PGPB, USPT, USOC, EPAB, JPAB ADJ YES 07-22-2008
20030126921PGPB ADJ YES 07-22-2008
374/\$.ccls.PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
(374/\$.ccls.) and (heat\$4 near optic\$3 near fiber)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
374/\$.ccls.PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
(374/\$.ccls.) and (heat\$4 near optic\$2 near fiber)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
(374/\$.ccls.) and (heat\$4 near15 optic\$2 near fiber)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
(374/\$.ccls. and (heat\$4 near15 optic\$2 near fiber)) and (heat\$4 near energy)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
(optic\$3 near fiber or optic\$3 near sens\$3 or optic\$3 near probe or optic\$3 near detect\$3)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
((optic\$3 near fiber or optic\$3 near sens\$3 or optic\$3 near probe or optic\$3 near detect\$3)) and (374/\$.ccls.)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-22-2008
5385404.pn.USPT ADJ YES 07-24-2008
(5385404.pn.) and (IR or infrared or temperature or heat\$4)USPT ADJ YES 07-24-2008
4560286.pn.USPT ADJ YES 07-24-2008
(4560286.pn.) and (diamond)USPT ADJ YES 07-24-2008
(374/\$.ccls.) and (diamond)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
(374/\$.ccls.) and (diamond and phosphor\$2)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
(374/\$.ccls. and (diamond)) and (infrared or IR or heat\$4)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
(374/\$.ccls. and (diamond)) and (infrared or IR or heat\$4) same (diamond)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
(374/\$.ccls. and (diamond) and (infrared or IR or heat\$4) same (diamond)) and (heat\$3 near15 diamond)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((subterranean or wellbore or borehole or downhole)) same (diamond orand phosphor\$2)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((subterranean or wellbore or borehole or downhole)) same (diamond or phosphor\$5)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((subterranean or wellbore or borehole or downhole) same (diamond or phosphor\$5)) and (374/\$.ccls.)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((subterranean or wellbore or borehole or downhole) same (diamond or phosphor\$5)) and (166/\$.ccls.)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((subterranean or wellbore or borehole or downhole) same (diamond or phosphor\$5) and 166/\$.ccls.) and (temperature or thermal\$2)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008

((subterranean or wellbore or borehole or downhole) same (diamond or phosphor\$5) and 166/\$.cccls. and (temperature or thermal\$2)) and (optic\$3 near fiber)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
6442304.pn.USPT ADJ YES 07-24-2008
(6442304.pn.) and (temperature)USPT ADJ YES 07-24-2008
(6442304.pn.) and (temperature near control\$4)USPT ADJ YES 07-24-2008
(6442304.pn.) and (metal near container)USPT ADJ YES 07-24-2008
(6442304.pn.) and (pump\$3)USPT ADJ YES 07-24-2008
20050149264 and (metal or steel)PGPB ADJ YES 07-24-2008
20050149264PGPB ADJ YES 07-24-2008
(20050149264) and (pump)PGPB ADJ YES 07-24-2008
(20050149264) and (valve\$1)PGPB ADJ YES 07-24-2008
(distillat\$3)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((distillat\$3)) and (374/\$.cccls.)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((distillat\$3) and 374/\$.cccls.) and (optic\$3 near fiber or optic\$2 near fibre)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((distillat\$3) and 374/\$.cccls.) and (vapour or vapor or air or gas)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((distillat\$3) and 374/\$.cccls. and (optic\$3 near fiber or optic\$2 near fibre)) and (vapour or vapor or air or gas)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
((distillat\$3) and 374/\$.cccls. and (vapour or vapor or air or gas)) and (remov\$3 near vapo\$2)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
3440865.pn.USPT ADJ YES 07-24-2008
(3440865.pn.) and (separat\$3)USPT ADJ YES 07-24-2008
((distillat\$3) and 374/\$.cccls. and (vapour or vapor or air or gas) and (remov\$3 near vapo\$2)) and (separat\$3)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 07-24-2008
2499105.pn.USPT ADJ YES 07-24-2008
(2499105.pn.) and (inlet or outlet)USPT ADJ YES 07-24-2008
(3440865.pn.) and (inlet or outlet)USPT ADJ YES 07-24-2008
(374/10, 11, 12, 43, 44, 161, 120, 141, 142, 208, 1627, 17, 29, 39, 110, 112, 135, 136, 137, 130)![CCLS]PGPB, USPT, USOC, EPAB, JPAB ADJ 07-24-2008
((374/10, 11, 12, 43, 44, 161, 120, 141, 142, 208, 1627, 17, 29, 39, 110, 112, 135, 136, 137, 130)![CCLS]) and (fiberoptic\$2 or optic\$2 fiber or optic\$2 near fibre or optical ner probe or optical near detect\$3)PGPB, USPT, USOC, EPAB, JPAB ADJ YES 07-24-2008
((374/10, 11, 12, 43, 44, 161, 120, 141, 142, 208, 1627, 17, 29, 39, 110, 112, 135, 136, 137, 130)![CCLS] and (fiberoptic\$2 or optic\$2 fiber or optic\$2 near fibre or optical ner probe or optical near detect\$3)) and (distillat\$3)PGPB, USPT, USOC, EPAB, JPAB ADJ YES 07-24-2008
6442304.pn.USPT ADJ YES 12-23-2008
6442304.pn. and (distribut\$3)USPT ADJ YES 12-23-2008
6442304.pn. and (distribut\$3)USPT ADJ YES 12-23-2008
5821861.pn.USPT ADJ YES 12-23-2008
(5821861.pn.) and (distribut\$3)USPT ADJ YES 12-23-2008
5821861.pn. and (fiber)USPT ADJ YES 12-23-2008
5821861.pn. and (fiber) and (control\$4 or adjust\$3 or automatic\$3 or regulat\$3)USPT ADJ YES 12-23-2008
5821861.pn. and (fiber) and (control\$4 or adjust\$3 or automatic\$3 or regulat\$3) and (parameter\$1)USPT ADJ YES 12-23-2008
(5821861.pn. and (fiber) and (control\$4 or adjust\$3 or automatic\$3 or regulat\$3)) and (process)USPT ADJ YES 12-23-2008

374/\$.ccls.PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 12-23-2008
 (374/\$.ccls.) and (react\$3 near vessel)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 (374/\$.ccls. and (react\$3 near vessel)) and (control\$4 near parameter\$1)PGPB, USPT, USOC,
 EPAB, JPAB, DWPI, TDBD ADJ YES 12-23-2008
 (5821861.pn. and (fiber) and (control\$4 or adjust\$3 or automatic\$3 or regulat\$3)) and
 (compressed air) and (temperature)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 (5821861.pn.) and (pressure)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 4703174.pn.USPT ADJ YES 12-23-2008
 4703174.pn. and (distillation)USPT ADJ YES 12-23-2008
 4703174.pn. and (distribut43)USPT ADJ YES 12-23-2008
 (react\$3 near vessel) same distribut\$3 near (optical fiber or fiber near optic or optical
 fibre)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 12-23-2008
 (react\$3 near vessel) same (distribut\$3 near optical fiber or fiber near optic or optical
 fibre)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 12-23-2008
 ((react\$3 near vessel) same (distribut\$3 near optical fiber or fiber near optic or optical fibre))
 and (temperature and pressure)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 (react\$3 near vessel) same (distribut\$3 near optical fiber or distribut\$3 near fiber near optic
 or distribut\$3 near optical fibre)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 ((react\$3 near vessel) same (distribut\$3 near optical fiber or fiber near optic or optical fibre))
 and (temperature and distillation)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 (optical fiber) same (fluid near drag)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-23-2008
 (5821861.pn. and (fiber)) and (valve)USPT ADJ YES 12-23-2008
 4703174.pn.USPT ADJ YES 12-23-2008
 4703174.pn. and (valve)USPT ADJ YES 12-23-2008
 2499105.pn.USPT ADJ YES 12-23-2008
 2499105.pn. and (valve)USPT ADJ YES 12-23-2008
 3440865.pn.USPT ADJ YES 12-23-2008
 3440865.pn. and (valve)USPT ADJ YES 12-23-2008
 reactor vessel and parameter and valveUSPT ADJ YES 12-23-2008
 reactor vessel same parameter same valveUSPT ADJ YES 12-23-2008
 5821861.pn.USPT ADJ YES 12-29-2008
 (5821861.pn.) and (pressure)USPT ADJ YES 12-29-2008
 4703174.pn.USPT ADJ YES 12-29-2008
 (4703174.pn.) and (distillation)USPT ADJ YES 12-29-2008
 (reation vessl or reactor) same (distillation)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-29-2008
 (reaction vessl or reactor) near15 (distillation)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
 TDBD ADJ YES 12-29-2008
 (reaction vessl or reactor) near15 (distillation) same (optical fiber or fiber near optic or
 distribut\$3 near optic\$2)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 12-29-2008
 (reaction vessl or reactor) near15 (distillation) same (optical fiber or fiber near optic or
 distribut\$3 near optic\$2) and (temperature or pressure)PGPB, USPT, USOC, EPAB, JPAB,
 DWPI, TDBD ADJ YES 12-29-2008
 (reaction vessl or reactor) near15 (distillation) same (optical fiber or fiber near optic or

distribut\$3 near optic\$2) and (temperature or pressure) and (distillation) and (react\$3)PGPB,
USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 12-29-2008
(reaction vessel or reactor) near (distillation)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
TDBD ADJ YES 12-29-2008
(reaction vessel or reactor) near (distillation)PGPB, USPT, USOC, EPAB, JPAB, DWPI,
TDBD ADJ YES 12-29-2008
((reaction vessel or reactor) near (distillation)) and (pressure and temperature and
valves)PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD ADJ YES 12-29-2008
(reaction vessel or reactor) near (distillation)USPT ADJ YES 12-29-2008
((reaction vessel or reactor) near (distillation)) and (pressure and temperature and
valves)USPT ADJ YES 12-29-2008
(5821861.pn.) and (stages)USPT ADJ YES 12-29-2008
7211702.pn.USPT ADJ YES 12-29-2008
(7211702.pn.) and (valve)USPT ADJ YES 12-29-2008
(7211702.pn.) and (valve) and (separat\$3)USPT ADJ YES 12-29-2008

Prior Art Searches

| Query | DB | Op. | Plur. | Thes. | Date |
|--|--|-----|-------|-------|------------|
| (distillation) near (column or vessel) same (temperature near sens\$3 or temperature detect\$3 or thermocouple or thermistor or RTD or probe or thermal) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| 374/\$.cccls. | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| (374/\$.cccls.) and ((distillation) near (column or vessel) same (temperature near sens\$3 or temperature detect\$3 or thermocouple or thermistor or RTD or probe or thermal)) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| (vessel or conduit or reservoir or chamber or distillation) same (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |

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|---|--|-----|-----|--|------------|
| (vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (fiber near optic\$2) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (fiber near optic\$2)) and (parameter near control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (fiber near optic\$2) and (parameter near control\$4)) and (temperature near control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (fiber near optic\$2) and (parameter near control\$4)) and (temperature near control\$4) and (resct\$3 near vessel) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (fiber near optic\$2) and (parameter near control\$4) and (temperature near control\$4)) and (react\$3 near vessel) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or | PGPB, | ADJ | YES | | 03-11-2010 |

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|---|--|-----|-----|--|------------|
| distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (react\$3 near vessel) | USPT, USOC, EPAB, JPAB, DWPI, TDBD | | | | |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (react\$3 near vessel)) and (temperature near control\$4 or thermal near control\$4 or heat\$3 near control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (react\$3 near vessel)) and (temperature near control\$4 or thermal near control\$4 or heat\$3 near control\$4) and (optic\$2 near fiber) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation) near (thermal map\$3 of thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (react\$3 near vessel) and (temperature near control\$4 or thermal near control\$4 or heat\$3 near control\$4) and (optic\$2 near fiber)) and (distribut\$3 near fiber) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| 3567895.pn. | USPT | ADJ | YES | | 03-11-2010 |
| 4384793.pn. | USPT | ADJ | YES | | 03-11-2010 |
| 4440509.pn. | USPT | ADJ | YES | | 03-11-2010 |
| 4767219.pn. | USPT | ADJ | YES | | 03-11-2010 |
| 4823166.pn. | USPT | ADJ | YES | | 03-11-2010 |
| (374/\$.ccls.) and (distribut\$3 near optic\$2 near fiber) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |

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|--|--|-----|-----|--|------------|
| (vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (374/\$.ccls. and (distribut\$3 near optic\$2 near fiber)) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (374/\$.ccls. and (distribut\$3 near optic\$2 near fiber)) and (temperature near control\$4 or thermal\$2 near control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| (vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (distribut\$3 near optic\$2 near fiber) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and (distribut\$3 near optic\$2 near fiber)) and (control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |

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|---|--|-----|-----|--|------------|
| 5765948.pn. | USPT | ADJ | YES | | 03-11-2010 |
| 5825804.pn. | USPT | ADJ | YES | | 03-11-2010 |
| 03075647 | EPAB, JPAB, DWPI | ADJ | YES | | 03-11-2010 |
| 374/\$.ccls. | USPT | ADJ | YES | | 03-11-2010 |
| (374/\$.ccls.) and (verbitsky) | USPT | ADJ | YES | | 03-11-2010 |
| (374/\$.ccls. and (verbitsky)) and (optic\$2 near fiber or fiberoptic) | USPT | ADJ | YES | | 03-11-2010 |
| (374/\$.ccls. and (verbitsky) and (optic\$2 near fiber or fiberoptic)) and (pipe or pipeline) | USPT | ADJ | YES | | 03-11-2010 |
| (react\$3 near vessel near temperature near control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((react\$3 near vessel near temperature near control\$4)) and ((vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((react\$3 near vessel near temperature near control\$4) and (vessel or conduit or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) same (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (optic\$2 near fiber or fiberoptic) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| (vessel or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) near (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| | | ADJ | YES | | 03-11-2010 |

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|--|--|-----|-----|--|------------|
| (vessel or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) near (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) same (distribut\$3 near optic\$2 near fiber or distribut\$3 near fiberoptic) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | | | | |
| (vessel or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) near (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) same (optic\$2 near fiber or fiberoptic) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) near (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient)) and (374/\$.ccls.) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |
| ((vessel or reservoir or chamber or distillation or tank or react\$3 near vessel or oven or furnace) near (thermal map\$3 or thermal profile or thermal distribution or thermal gradient or temperature near profile or temperature near map\$4 or temperature near distribution or temperature near gradient) and 374/\$.ccls.) and (control\$4) | PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD | ADJ | YES | | 03-11-2010 |